T S1/9/ALL

1/9/1
DIALOG(R)File 351:Derwent WPI

013907567
WPI Acc No: 2001-391780/200142
XRAM Acc No: C01-119406
New zwa2 gene from Corynebacterium glutamicum, useful, when suppressed, for increasing fermentative production of amino acids, especially lysine
Patent Assignee: DEGUSSA-HUELS AG (DEGS); DEGUSSA AG (DEGS); BATHE B (BATH-I); DUSCH N (DUSC-I); KALINOWSKI J (KALI-I); MARX A (MARX-I); MOCKEL B (MOCK-I); PFEFFERLE W (PFEF-I); PUHLER A (PUHL-I); WEISSENBORN A (WEIS-I)
Inventor: BATHE B; DUSCH N; KALINOWSKI J; MARX A; MOCKEL B; PFEFFERLE W; PUHLER A; WEISSENBORN A; MOECKEL B; PUEHLER A
Number of Countries: 036 Number of Patents: 012
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
EP 1106693	A1	20010613	EP 2000125832	A	20001125	200142	B
AU 200071987	A	20010614	AU 200071987	A	20001204	200142	
DE 19959327	A1	20010613	DE 1059327	A	19991209	200142	
CA 2325766	A1	20010609	CA 2325766	A	20001206	200145	
JP 2001197892	A	20010724	JP 2000371850	A	20001206	200147	
ZA 200007270	A	20010829	ZA 20007270	A	20001207	200157	
KR 2001062279	A	20010707	KR 200074722	A	20001208	200175	
CN 1312373	A	20010912	CN 2000136074	A	20001208	200202	
SK 200001835	A3	20011203	SK 20001835	A	20001201	200203	
US 20020106748	A1	20020808	US 2000733386	A	20001204	200254	
BR 200005811	A	20020723	BR 20005811	A	20001208	200257	
HU 200004876	A1	20020930	HU 20004876	A	20001208	200272	

Priority Applications (No Type Date): DE 1059327 A 19991209
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 1106693	A1	G	20	C12N-015/52	
Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI TR					
AU 200071987	A			C12P-013/04	
DE 19959327	A1			C12N-015/77	
CA 2325766	A1	E		C12N-015/31	
JP 2001197892	A		15	C12N-015/09	
ZA 200007270	A		34	C12N-000/00	
KR 2001062279	A			C12N-015/53	
CN 1312373	A			C12N-015/10	
SK 200001835	A3			C12N-015/52	
US 20020106748	A1			C12P-013/04	
BR 200005811	A			C12P-013/08	
HU 200004876	A1			C12N-015/52	

Abstract (Basic): EP 1106693 A1
NOVELTY - Isolated polynucleotide (I) which is a zwa2 gene from Corynebacterium glutamicum, is new.
DETAILED DESCRIPTION - Isolated polynucleotide (I) contains a sequence that is:
(i) at least 70% identical with a sequence that encodes a 385 amino acid (aa) sequence (II), given in the specification;
(ii) encodes a polypeptide at least 70% identical with (II);
(iii) is the complement of (i) or (ii); or

(iv) contains at least 15 consecutive nucleotides (nt) from (i)-(iii).

INDEPENDENT CLAIMS are also included for the following:

(1) vectors containing (I);

(2) coryneform bacteria produced by integrational mutagenesis with the vector of (1); and

(3) production of L-amino acids, especially L-lysine, by growing an aa-producing bacterium in which at least the zwa2 gene has been suppressed.

USE - (I) is the zwa2 gene of Corynebacterium glutamicum and it (or its fragments) are useful as hybridization probes or primers for isolation of cDNA or genes that encode the zwa2 protein, or related sequences. Bacteria in which zwa2 activity or expression is reduced are useful for production of L-amino acids, specifically lysine, useful in human medicine, the pharmaceutical industry and especially in animal nutrition.

ADVANTAGE - Bacteria that underexpress the zwa2 gene have improved production of amino acids. The C. glutamicum mutant DSM5715::pCR2.1zwa2int (containing a copy of the zwa2 gene inactivated by insertional mutagenesis) was grown for 48 hours on nutrient medium, then the supernatant analyzed for lysine hydrochloride. The content was 12.29 g/l, compared with 9.54 g/l for unmodified DSM 5715.

pp; 20 DwgNo 0/1

Technology Focus:

TECHNOLOGY FOCUS - BIOTECHNOLOGY - Preferred Nucleic Acid: (I) is replicable in coryneforms, and is particularly recombinant DNA or RNA. Specifically it is:

(a) a 1740 base pair (bp) sequence (III), given in the specification;

(b) equivalent to (a) within the degeneracy of the genetic code;

(c) hybridizes to the complement of (a) or (b), or

(d) a functional sense mutant of (III).

Preferred Process: To produce amino acids, a cell (specifically Corynebacterium glutamicum), with reduced zwa2 activity is grown. Optionally the cell also has additional genes, specifically the zwa1 gene, involved in the biosynthetic pathway for the aa amplified and/or metabolic pathways that reduce formation of L-lysine are suppressed. Specifically at least one of the following genes is amplified: dapA (dihydrodipicolinate synthase); lysC (feedback-resistant aspartate kinase); dapD (tetradihydrodipicolinate-succinylase); dapE (succinyldiaminopimelate-desuccinylase); gap (glyceraldehyde-3-phosphate dehydrogenase); pyc (pyruvate carboxylase); mqo (malate:quinone oxidoreductase); and lysE (lysine transport) and/or at least one of pck (phosphoenolpyruvate carboxykinase) or pgi (glucose-6-phosphate isomerase) is suppressed. Suppression of zwa2 is achieved by reducing expression of the zwa2 gene or by suppressing the catalytic activity of the encoded protein. Most preferably, the gene is suppressed by integrational mutagenesis, using the shuttle vector pCR2.1zwa2int. The cells are cultured at 25-40 degreesC, for 10-160 hour.

Preparation: A cosmid gene library from Corynebacterium glutamicum ATCC 13032 was prepared and inserts in individual clones digested with restriction enzymes and fragments of 1.5-2 kilobases (kb) separated. These were sequenced and the sequences analyzed by computer to identify a 1740 bp open reading frame for a 385 aa protein; the zwa2 gene. A 0.6 kb fragment of the gene was amplified from chromosomal DNA (primer sequences reproduced) and the fragment cloned into pCR2.1-TOPO to form pCR2.1zwa2int. This was introduced, by electroporation, into C. glutamicum DSM 5715 to form the integrational mutant DSM5715::pCR2.1zwa2int.

Title Terms: NEW; GENE; CORYNEBACTERIUM; GLUTAMICUM; USEFUL; SUPPRESS; INCREASE; FERMENTATION; PRODUCE; AMINO; ACID; LYSINE
Derwent Class: B05; D13; D16; E16
International Patent Class (Main): C12N-000/00; C12N-015/09; C12N-015/10; C12N-015/31; C12N-015/52; C12N-015/53; C12N-015/77; C12P-013/04; C12P-013/08
International Patent Class (Additional): C07H-021/00; C07H-021/04; C12N-001/20; C12N-001/21; C12N-009/00; C12N-015/01; C12N-015/11; C12N-015/63; C12N-015/79; C12Q-001/68; C12R-001/15; C12P-013/08; C12R-001-15
File Segment: CPI
Manual Codes (CPI/A-N): B04-E02F; B04-E03F; B04-E05; B04-E08; B04-F10B0E; B10-B01B; B10-B02; D03-G01; D05-C01; D05-H12A; D05-H12B; D05-H12D1; D05-H12E; D05-H14A1; E10-B01C; E10-B02B; E10-B02D; E11-M
Chemical Fragment Codes (M1):
01 M423 M710 M905 N131 N135 N136 Q233 RA00NS-N
Chemical Fragment Codes (M2):
04 H1 H101 H182 J0 J011 J1 J171 M280 M315 M321 M332 M343 M349 M381 M391 M416 M620 M720 M800 M904 M905 M910 N131 N135 N136 N161 Q233 R03253-K R03253-P R17999-K R17999-P
Chemical Fragment Codes (M3):
01 M423 M710 M905 N131 N135 N136 Q233 RA00NS-N
Derwent Registry Numbers: 1655-P; 1655-U
Specific Compound Numbers: RA00NS-N; RA012P-N; RA00GT-N; R03253-K; R03253-P; R17999-K; R17999-P
Key Word Indexing Terms:
01 93605-0-0-0-CL, NEW 105730-0-0-0-CL, NEW 200757-0-0-0-CL, NEW 8187-2-0-0-CL, PRD
?

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1/9/1
DIALOG(R)File 351:Derwent WPI

013825643
WPI Acc No: 2001-309855/200133
XRAM Acc No: C01-095865
New Coryneform glutamicum poxB pyruvate oxidase polynucleotide useful for insertional mutation, producing strains with increased production of amino acids
Patent Assignee: DEGUSSA-HUELS AG (DEGS); DEGUSSA AG (DEGS)
Inventor: BATHE B; DUSCH N; KALINOWSKI J; MOCKEL B; PFEFFERLE W; PUHLER A; WEISSENBORN A; MOECKEL B; PUEHLER A; WEISSENBORG A
Number of Countries: 033 Number of Patents: 010
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
EP 1096013	A2	20010502	EP 2000122505	A	20001014	200133 B
AU 200068075	A	20010503	AU 200068075	A	20001025	200133
DE 19951975	A1	20010503	DE 1051975	A	19991028	200133
CA 2322553	A1	20010428	CA 2322553	A	20001025	200136
BR 200005091	A	20010619	BR 20005091	A	20001027	200140
JP 2001161386	A	20010619	JP 2000325437	A	20001025	200140
ZA 200006039	A	20010725	ZA 20006039	A	20001026	200147
CN 1304997	A	20010725	CN 2000133779	A	20001027	200164
KR 2001051289	A	20010625	KR 200063500	A	20001027	200172
SK 200001573	A3	20011106	SK 20001573	A	20001020	200176

Priority Applications (No Type Date): DE 1051975 A 19991028
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 1096013	A2	G	21	C12N-015/53	
Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI					
AU 200068075	A			C12N-015/52	
DE 19951975	A1			C07K-014/34	
CA 2322553	A1	E		C12N-015/10	
BR 200005091	A			C12N-015/11	
JP 2001161386	A		17	C12N-015/09	
ZA 200006039	A		39	C07K-000/00	
CN 1304997	A			C12N-015/10	
KR 2001051289	A			C12N-015/53	
SK 200001573	A3			C12N-015/53	

Abstract (Basic): EP 1096013 A2
NOVELTY - Isolated polynucleotide (I) comprises:
(a) a sequence that is at least 70% identical to a sequence that encodes a polypeptide comprising the fully defined 579 amino acid sequence (S2) given in the specification;
(b) encodes a protein at least 70% identical with (S2);
(c) a sequence complementary to (a) or (b); or
(d) a sequence comprising at least 15 consecutive bases from (a), (b) or (c).
DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:
(1) a vector comprising (I);
(2) coryneform bacteria, functioning as host cell, that include a deletion or insertion in the poxB gene; and
(3) production (M) of L-amino acids, especially L-lysine, by

fermenting bacteria in which the poxB gene is at least partly suppressed.

USE - (I) is used for insertional mutagenesis of the poxB gene in coryneform bacteria being used for fermentative production of L-amino acids, specifically L-lysine, which is used in human medicine, foods and especially animal nutrition (claimed). (I) is also useful as a source of probes and primers for isolation of related sequences.

ADVANTAGE - Cells in which the poxB gene is suppressed produce higher yields of L-amino acids.

pp; 21 DwgNo 0/1

Technology Focus:

TECHNOLOGY FOCUS - BIOTECHNOLOGY - Preferred Nucleic Acid: Preferred nucleic acid is replicable, and preferably recombinant DNA or RNA, comprising:

(a) a fully defined 2160 base pair sequence (S1) given in the specification;

(b) an equivalent of (S1) within the degeneracy of the genetic code;

(c) a sequence that hybridizes with the complement of (a) or (b); or

(d) a functionally silent sense mutation of (a).

(S1) is the poxB gene of Corynebacterium glutamicum and encodes a pyruvate oxidase polypeptide comprising (S2).

Preparation: Preparation is by standard recombinant techniques.

Preferred Process: In (M) the bacterium is preferably C. glutamicum and it may have been modified to:

(a) amplify genes in the biosynthetic pathway to the selected amino acid;

(b) partly 'switch off' metabolic pathways that reduce production of the amino acid;

(c) reduce expression of (I); or

(d) to reduce catalytic activity of (I)-encoded enzymes.

Especially the poxB gene is attenuated by insertional mutation of pCR2.1poxBint (DSM 13114) and production of L-lysine is improved by overexpressing at least one of the genes:

(a) dapA (dihydrodipicolinate synthase);

(b) pyc (pyruvate carboxylase);

(c) dapE (succinyldiaminopimelate desuccinylase);

(d) dap (glyceraldehyde-3-phosphate dehydrogenase);

(e) mqo (malate:quinone oxidoreductase);

(f) lysE (lysine export); or

(g) the fragment that mediates resistance to S-(2-aminoethyl)cysteine.

Transformants are cultured at 20-45, preferably 25-40,degreesC, especially for 10-160 hr.

Title Terms: NEW; CORYNEFORM; GLUTAMICUM; PYRUVATE; OXIDASE; POLYNUCLEOTIDE ; USEFUL; MUTANT; PRODUCE; STRAIN; INCREASE; PRODUCE; AMINO; ACID

Derwent Class: B04; B05; D16; E16

International Patent Class (Main): C07K-000/00; C07K-014/34; C12N-015/09; C12N-015/10; C12N-015/11; C12N-015/52; C12N-015/53

International Patent Class (Additional): C07H-021/00; C12N-001/20; C12N-001/21; C12N-009/02; C12N-015/31; C12N-015/63; C12P-013/04; C12P-013/08; C12R-001/15; C12R-001-15

File Segment: CPI

Manual Codes (CPI/A-N): B04-C01G; B04-E03E; B04-E08; B04-F10B; B04-F10B0E; B04-F1100E; B04-L03A; B04-N03A; B10-B01B; B11-A01; B11-A02; D05-C03B; D05-H04; D05-H12A; D05-H12B; D05-H14A1; D05-H17A3; E10-B01E

Chemical Fragment Codes (M1):

01 M423 M430 M710 M782 M905 N135 Q233 RA00NS-Q RA00NS-M RA00NS-N

Chemical Fragment Codes (M2):

02 H1 H101 H182 J0 J011 J1 J171 M280 M315 M321 M332 M343 M349 M381 M391
M416 M620 M720 M800 M904 M905 M910 N131 Q233 R03253-K R03253-P
R17999-K R17999-P
Chemical Fragment Codes (M3):
01 M423 M430 M710 M782 M905 N135 Q233 RA00NS-Q RA00NS-M RA00NS-N
Derwent Registry Numbers: 1655-P; 1655-U
Specific Compound Numbers: RA00NS-Q; RA00NS-M; RA00NS-N; R03253-K; R03253-P
; R17999-K; R17999-P; RA00GT-Q; RA00GT-M; RA00GT-N; RA00H1-K; RA00H1-P;
RA00H1-U; RA00H3-K; RA00H3-P; RA00H3-U; RA012P-Q; RA012P-M; RA012P-N
Key Word Indexing Terms:
01 93605-0-0-0-CL, NEW 105730-0-0-0-CL, NEW 184611-0-0-0-CL, PRD,
USE 184616-0-0-0-CL, PRD, USE 200757-0-0-0-CL, NEW
8187-2-0-0-CL, PRD
?

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T S1/9/ALL

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DIALOG(R)File 351:Derwent WPI

013817157
WPI Acc No: 2001-301369/200132
XRAM Acc No: C01-092694
New coryneform nucleic acid encoding phosphoenolpyruvate carboxykinase, useful for preparing strains of bacteria with increased production of amino acids
Patent Assignee: DEGUSSA-HUELS AG (DEGS); FORSCHUNGSZENTRUM JUELICH GMBH (KERJ); EIKMANNS B (EIKM-I); MOCKEL B (MOCK-I); RIEDEL C (RIED-I); SAHM H (SAHM-I)
Inventor: EIKMANNS B; MOCKEL B; RIEDEL C; SAHM H; MOECKEL B; EICKMANN B
Number of Countries: 035 Number of Patents: 014
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
DE 19950409	A1	20010426	DE 1050409	A	19991020	200132	B
EP 1094111	A2	20010425	EP 2000121715	A	20001005	200132	
AU 200064104	A	20010426	AU 200064104	A	20001009	200134	
BR 200004957	A	20010529	BR 20004957	A	20001020	200134	
CA 2322555	A1	20010420	CA 2322555	A	20001019	200135	
JP 2001149086	A	20010605	JP 2000316432	A	20001017	200138	
ZA 200005843	A	20010725	ZA 20005843	A	20001019	200147	
KR 2001051134	A	20010625	KR 200061572	A	20001019	200172	
CN 1308125	A	20010815	CN 2000129864	A	20001020	200174	
SK 200001529	A3	20011203	SK 20001529	A	20001013	200203	
US 20020065403	A1	20020530	US 99455777	A	19991207	200240	
US 6420151	B1	20020716	US 99455777	A	19991207	200248	
HU 200004115	A1	20020930	HU 20004115	A	20001019	200272	
US 20030003548	A1	20030102	US 99455777	A	19991207	200305	
			US 200259091	A	20020130		
			US 2002138713	A	20020506		

Priority Applications (No Type Date): DE 1050409 A 19991020
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
DE 19950409	A1		21	C07H-021/00	
EP 1094111	A2	G		C12N-015/60	
Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI					
AU 200064104	A			C12N-015/31	
BR 200004957	A			C07H-021/04	
CA 2322555	A1	E		C12N-015/10	
JP 2001149086	A		19	C12N-015/09	
ZA 200005843	A		45	C07H-000/00	
KR 2001051134	A			C12N-015/54	
CN 1308125	A			C12N-015/10	
SK 200001529	A3			C12N-015/60	
US 20020065403	A1			C12N-005/00	
US 6420151	B1			C12P-021/06	
HU 200004115	A1			C12N-015/60	
US 20030003548	A1			C12P-013/04	Div ex application US 99455777 CIP of application US 200259091 Div ex patent US 6420151

Abstract (Basic): DE 19950409 A1
NOVELTY - Isolated polynucleotide (I) from coryneform bacteria

comprises a sequence at least 70% identical to the sequence that encodes a fully defined 610 amino acid protein (II) sequence (S2) given in the specification, sequences in plasmids pEK-pckA and pEK-pckB, a sequence encoding a polypeptide at least 70% identical to (II), their complements or a sequence of at least 15 consecutive bases from (I).

DETAILED DESCRIPTION - Isolated polynucleotide (I) from coryneform bacteria comprises:

(a) a sequence at least 70% identical to a sequence that encodes the fully defined 610 amino acid sequence (S2) given in the specification;

(b) a sequence at least 70% identical to a sequence that encodes (S2) and is present in plasmids pEK-pckA and pEK -pckB;

(c) a sequence encoding a polypeptide with an amino acid sequence at least 70% identical to (S2);

(d) the complements of (a), (b) or (c);

(e) a sequence of at least 15 consecutive bases from (a), (b), (c) or (d)

INDEPENDENT CLAIMS are also included for the following:

(1) vectors (III) pEK-pckA and pEK-pckB

(2) vector (IV) pK19mobsacBDELTApck (deposited in Escherichia coli DH5alpha as DSM 13047);

(3) corynebacteria comprising (III) or (IV) or including a DELTApck deletion; and

(4) fermentative production (P) of L-amino acids using a bacterium in which either (I) is downregulated or the activity of its encoded protein is reduced.

USE - Coryneform bacteria in which (I) is downregulated are useful for the production of L-amino acids, specifically lysine and threonine (claimed), useful in human or animal nutrition, in pharmaceuticals and human medicine.

Fragments of (I) are useful as hybridization probes for isolation of full-length or related sequences that encode phosphoenolpyruvate carboxykinase and as primers for polymerase chain reaction amplification.

ADVANTAGE - Bacteria with reduced expression of (I) produce higher yields of L-amino acids.

pp; 21 DwgNo 0/3

Technology Focus:

TECHNOLOGY FOCUS - BIOTECHNOLOGY - Preferred Nucleic Acid: (I) is replicable, preferably recombinant, DNA or RNA, and especially is:

(a) the fully defined 3935 base pair sequence (S1) given in the specification;

(b) an equivalent (S1E) of (S1) within the degeneracy of the genetic code;

(c) a sequence that hybridizes to the complement of (S1) or (S1E), or

(d) a functionally silent mutation of (S1).

Preferred Protein: (II) is a phosphoenolpyruvate carboxykinase (PKC).

Preferred Process: In (P) C. glutamicum is used, and downregulation of (I) is by integrational mutagenesis with pK19mobsacBDELTApck. The method is particularly used to produce:

(a) L-lysine, using a bacterium that also overexpresses the dapA gene for dihydrodipicolinate synthase and has the DNA fragment that mediates resistance to S-(2-aminoethyl)-cysteine amplified; or

(b) L-threonine, using a bacterium that overexpresses the hom gene (for homoserine dehydrogenase) and/or a feedback-resistant allele of hom (homdr or homFBR).

Preparation: Preparation is by standard recombinant techniques.

Title Terms: NEW; CORYNEFORM; NUCLEIC; ACID; ENCODE; USEFUL; PREPARATION;

STRAIN; BACTERIA; INCREASE; PRODUCE; AMINO; ACID
Derwent Class: B05; D13; D16; E16
International Patent Class (Main): C07H-000/00; C07H-021/00; C07H-021/04; C12N-005/00; C12N-015/09; C12N-015/10; C12N-015/31; C12N-015/54; C12N-015/60; C12P-013/04; C12P-021/06
International Patent Class (Additional): C07H-021/02; C12N-001/20; C12N-001/21; C12N-009/12; C12N-009/88; C12N-015/00; C12N-015/53; C12N-015/63; C12N-015/70; C12N-015/74; C12P-013/08; C12P-021/02; C12R-001/15; C12N-015/09; C12R-001-15
File Segment: CPI
Manual Codes (CPI/A-N): B04-C01G; B04-E03E; B04-E05; B04-E06; B04-E08; B04-F10B; B04-F1100E; B04-L04; B04-N03A; B10-B01B; B10-B02H; B11-A01; B11-C08E5; B12-K04F; D03-H01T2; D05-C01; D05-C03D; E10-B01C; E10-B02; E10-B02D4
Chemical Fragment Codes (M1):
01 M423 M430 M710 M750 M782 M905 N135 P831 Q233 Q505 RA00NS-Q RA00NS-A RA00NS-D RA00NS-M RA00NS-N
02 M423 M430 M710 M750 M782 M905 N135 Q233 RA012P-Q RA012P-A RA012P-M RA012P-N
03 M423 M430 M710 M782 M905 N104 N131 N135 Q233 RA00GT-Q RA00GT-M RA00GT-N
Chemical Fragment Codes (M2):
04 H1 H101 H182 J0 J011 J1 J171 M280 M315 M321 M332 M343 M349 M381 M391 M416 M620 M720 M800 M904 M905 M910 N131 Q233 R03253-K R03253-P R17999-K R17999-P
05 H1 H100 H181 H4 H401 H481 H8 J0 J011 J1 J171 M280 M313 M321 M331 M343 M349 M381 M391 M416 M620 M720 M800 M904 M905 M910 N131 Q233 R03940-K R03940-P
Chemical Fragment Codes (M6):
06 M905 P831 Q233 Q505 R515 R521 R614 R627 R639
Derwent Registry Numbers: 0480-P; 0480-U; 1655-P; 1655-U
Specific Compound Numbers: RA00NS-Q; RA00NS-A; RA00NS-D; RA00NS-M; RA00NS-N; RA012P-Q; RA012P-A; RA012P-M; RA012P-N; RA00GT-Q; RA00GT-M; RA00GT-N; R03253-K; R03253-P; R17999-K; R17999-P; R03940-K; R03940-P
Key Word Indexing Terms:
01 93605-0-0-0-CL, DET, NEW 105730-0-0-0-CL, DET, NEW 200757-0-0-0-CL, NEW 8187-2-0-0-CL, PRD 129500-1-0-0-CL, PRD
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